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제 목	Effects of betaine on the glutamate-induced neurotoxicity in primary cultured chicken brain cells
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내 용	<p>The neuroprotective effect of betaine, one of the components of Lycii Fructus, on glutamate-induced neurotoxicity in primary cultured chicken brain cells were examined. Betaine was found to attenuate glutamate-induced neurotoxicity at the concentration of 5-10 mM in both morphological and chemical aspects. The pretreatment of chicken brain cells with 5-10 mM betaine for 2 hr at the 12th day of culture before the 40 min-exposure to 500 <math>\mu</math>M glutamate significantly increased the survival rate of nerve cells in chicken brain. Betaine could also raise the decreased LDH-level due to the neurotoxicity induced with 100 <math>\mu</math>M glutamate in chicken brain cells. LDH value was decreased to 63% of control level in chicken brain cells at the time of 48 hr after the exposure to glutamate. However, the pretreatment of chicken brain cells with 5 mM betaine for 2 hr before the exposure to glutamate could prevent the decrease of LDH-level in brain cells showing 90% of control level. Nevertheless, the remarkable neuroprotective effect of betaine on the glutamate-induced neurotoxicity in cultured chicken brain cells could not be observed when betaine was simultaneously administered with glutamate.</p>